CLASSIFICATION 50X1-HUM REPORT CENTRAL INTELLIGENCE AGENCY INFORMATION FROM FOREIGN DOCUMENTS OR RADIO BROADCASTS CD NO. COUNTRY DATE OF USSR INFORMATION 1946 **SUBJECT** Scientific - Chemistry, gas dynamics, explosions DATE DIST. /2 Dec 1950 HOW **PUBLISHED** Monograph WHERE NO. OF PAGES 1 **PUBLISHED** Moscow DATE 1946 PUBLISHED SUPPLEMENT TO LANGUAGE REPORT 50X1-HUM Russian

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Teoriya Udarnykh Voln i Vvedeniye v Gasodinamiku, Akademii Nauk SSSR, (FDD 375180)

REVIEW OF "THE THEORY OF SHOCK WAVES AND AN INTRODUCTION TO GAS DYNAMICS" BY YA. B. ZEL'DOVICH

This monograph by Ya. B. Zel'dovich is an introduction to the theory of explosions from the standpoint of military implications. It treats only those phenomena of gas dynamics which have no analogies in the theory of incompressible fluids and emphasizes the physics of the phenomena rather than the mathematical methods used in solving problems. The monograph reviews pertinent Soviet and other works and contains 128 references.

Of particular interest are chapters XX to XXIV, which present the theory of explosions (military) and mentio some practical Soviet accomplishments in this field. A detailed analysis is presented of the following phenomena: behavior of the products of explosion, origin and propagation of shock waves in the atmosphere, destructive effects of explosions and modeling of explosions.

In connection with the modeling of explosions, pertinent similarity laws are presented and described. In the actual experiments of G. I. Pokrovskiy (Military Engineering Academy), the linear dimensions of the model were 29 times smaller than those of the prototype and the weight of the explosive charge was reduced by a factor of 25,000

The subject matter of this monograph would be of interest to scientists and engineers working in the field of jet propulsion and explosives.

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